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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,892	06/29/2001	Hideaki Ono	50195-261	4949

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McDERMOTT, WILL & EMERY
600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER

SHEEHAN, JOHN P

ART UNIT PAPER NUMBER

1742

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/893,892

Applicant(s)

ONO ET AL.

Examiner

John P. Sheehan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2005 and 26 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-12, 14 and 16 is/are pending in the application.
- 4a) Of the above claim(s) 5-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. This application contains claims 5 to 12 drawn to an invention nonelected with traverse in the response submitted September 27, 2002. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Objections

1. Claim 16 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

I. Claim 16, line 3, recites that the amorphising process is done "in an inert gas", which encompasses the use of any inert gas, however, claim 14 from which claim 16 depends limits the inert gas to argon (claim 14, line 13). Thus, claim dependent claim 16 is actually broader than independent claim 14 from which claim 16 depends.

Claim Rejections - 35 USC § 112, 1st Paragraph

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 14 and 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

I. In claim 14, line 13, ball milling "under an atmosphere of argon" does not find support in the application as filed.

II. In claim 14, lines 14 and 15, the limitation, "so as to allow ultrafine crystal particles in each crystal grain of the mother crystal mother to remain in an amorphous mixture" does not find support in the application as filed.

III. In claim 14, lines 18 and 19, the language, "so as to allow the ultrafine particles to grow continuously during the crystallizing process" does not find support in the application as filed.

Applicants have cited various sections of the specification as support for the amendments to the claims, however, none of the cited sections of the specification support the claims limitations set forth above in I to III.

Claim Rejections - 35 USC § 102/103

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 14 and 16 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nomura et al. (Nomura, US Patent No. 6,261,385).

Nomura teaches an anisotropic nanocomposite rare earth permanent magnet consisting of a hard magnetic phase and a soft magnetic phase (column 3, lines 28 to 35). Nomura teaches that the hard magnetic phase contains a rare earth metal, a transition metal and nitrogen or boron (column 3, lines 60 to 68 and column 4, lines 37 to 43) and the soft magnetic phase can contain at least one transition metal and boron or nitrogen (column 4, lines 3 to 8 and column 4, lines 48 to 51). These hard and soft magnetic phases taught by Nomura are encompassed by the instant claim language used to claim the hard and soft magnetic phases recited in the instant claims. Nomura defines the crystal size of a nanocomposite as being “several tens of nanometers” (column 2, lines 40 to 45) which overlaps the instantly disclosed grain size of “150 nm or

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less" (applicants' specification, page 7, second paragraph). Nomura also teaches preferred combination of phases that are encompassed by the instant claims (column 4, line 60 to column 5, line 3). Nomura teaches that this magnetic material can be ground to form an anisotropic nanocomposite powder (column 8, lines 1 to 5). Finally, Nomura teaches specific example alloys that are encompassed by the instant claims (column 9, Examples 2 to 6).

The claims and Nomura differ in that Nomura does not teach the process steps recited in the claims.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the process steps recited in applicants' product by process claims do not necessarily lend patentability to the claimed product, MPEP 2113.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

It is noted that the use of a rejection under 35 USC 102/103 for product by process claims as set forth above has been approved by the courts, see MPEP 2113.

"[T]he lack of physical description in a product-by-process claim makes determination of the patentability of the claim more difficult, since in spite of the fact that the claim may recite only process limitations, it is the patentability of the product claimed and not of the

recited process steps which must be established. We are therefore of the opinion that when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable. As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith." *In re Brown*, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972).

Response to Arguments

4. Applicant's arguments filed March 23, 2005 and July 26, 2005 have been fully considered but they are not persuasive.

4. The declaration under 37 CFR 1.132 filed November 10, 2004 is still considered to be insufficient to overcome the rejection of claims 14 and 16 based upon Nomura as set forth in the last Office action because:

I. Applicants urge that the claims have been amended to be commensurate in scope with the example of the declaration. The Examiner is not persuaded. As drafted applicants' claims encompass any composition containing 2 to 15 atomic % Nd, 1 to 25 atomic % B and the balance Fe. However, the declaration is based on a single alloy composition, Nd₉Fe₈₆B₅. A single example alloy is not considered to be commensurate in scope to an alloy that is claimed in terms of component ranges as recited in applicants' claims. Thus, the data set forth in the declaration is not considered to be commensurate in scope to the claims, *In re Dill* 202 USPQ 805 and MPEP 716.02(d). Further, general superiority cannot be inferred from the results obtained

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using a single embodiment of the claimed invention, as applicants have attempted to in this case, *In re Greenfield*, 197 USPQ 227, 230 and MPEP 2144.08 (B).

II. Applicants have submitted lighter versions of Figures 1 and 2 of the declaration. However, even these new versions of Figures 1 and 2 are still too dark and are of such low clarity that it is still difficult to impossible to determine what it is that these Figures show.

III. The method used to prepare Nomura's Example 3 alloy is not the method taught by Nomura. Nomura employed a wheel speed of 45 m/sec (Nomura, column 8, line 23) while applicants used a wheel speed of 24 m/sec to prepare the alloy. It is not clear how this change in wheel speed from that used by Nomura might effect the properties of the finished alloy. In response to this comment by the Examiner, applicants state that,

"Dr. Shimada determined that there is no significant difference between the experimental result under the wheel speed of 45 m/sec and that under the wheel speed of 24 m/sec because the experiment with the wheel speed of 24m/sec obtained the quenched thin ribbons having a 100% amorphous structure. Thus even if a higher rolling velocity was selected, the quenched thin ribbons would have a 100% amorphous structure". (page 7 of applicants' response, emphasis added by the Examiner))

The Examiner is not persuaded. It is noted that applicants argue, "that there is no significant difference" (emphasis added by the Examiner) rather than arguing that there is no difference. Applicants' use of the term "no significant difference" does not

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necessarily preclude differences between Nomura's alloy prepared at a wheel speed of 45 m/sec and the alloy prepared for the purpose of the declaration at a wheel speed of 24m/sec. Further, applicants are attempting to establish that the process recited in the applicants' product by process claims produces a different product than that produced by Nomura. In view of this, applicants' should compare their process to Nomura's process and should not compare their process to a process that is approximately Nomura's process as applicants have attempted to do in their declaration.

5. The declaration under 37 CFR 1.132 filed July 26, 2005 is insufficient to overcome the rejection of claims 14 and 16 based upon Nomura as set forth in the last Office action because:

I. Applicants urge that the claims have been amended to be commensurate in scope with the example of the declaration submitted July 26, 2005. The Examiner is not persuaded. As drafted applicants' claims encompass any composition containing 2 to 15 atomic % Nd, 1 to 25 atomic % B and the balance Fe. However, the declaration is based on a single alloy composition, $\text{Nd}_9\text{Fe}_{86}\text{B}_5$. A single example alloy is not considered to commensurate in scope to an alloy that is claimed in terms of component ranges. Thus, the data set forth in the declaration is not considered to be commensurate in scope to the claims, In re Dill 202 USPQ 805 and MPEP 716.02(d). Further, general superiority cannot be inferred from the results obtained using a single embodiment of the claimed invention, as applicants have attempted to in this case, In re Greenfield, 197 USPQ 227, 230 and MPEP 2144.08 (B).

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II. The declaration compares the ball milling method of making the claimed magnetic alloy recited in applicants' claims to a method employing an argon plasma. Such a comparison does not compare the claimed invention to the closest known prior art, Nomura, MPEP 716.02(e).

Applicants' argument regarding crystal grain size is not persuasive. First, applicants' claims are silent with respect to the crystal grain size of the claim alloy. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In their arguments, applicants dismiss Nomura's disclosure of a crystal grain size of several tens of nanometers (column 2, lines 40 to 45) as theoretical possibilities. The Examiner is not persuaded by applicants' allegation. Nomura discloses that the grain size of the disclosed alloy is several tens of nanometers. Applicants have not presented any probative evidence that convincingly contradicts Nomura's disclosure.

Applicants argue, based on newly submitted lighter copies of Figures 1 and 2 of the declaration submitted March 23, 2005, that the example of the instantly claimed alloy has a crystal grain size of 50 nm while the grain size of the Nomura alloy is 150 nm. The Examiner is not persuaded. As set forth above in the Examiner's discussion of the declaration, newly submitted lighter copies of Figures 1 and 2 of the declaration, are still too dark and are of such low clarity that it is still difficult, to impossible, for the Examiner to evaluate what it is that these figures demonstrate. Nomura's alloy is disclosed as a nanocomposite and Nomura defines the crystal size of a nanocomposite

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as being "several tens of nanometers" (column 2, lines 40 to 45) which overlaps the instantly disclosed grain size of "150 nm or less" of applicants' alloy. Further, applicants' arguments that a smaller grain size results in a higher coercive force and Dr. Shimada's estimates of the coercive force based on the grain size are not persuasive in that applicants have not provided evidence to support their statements. It should be noted that the grain sizes which applicants have based their arguments have not been established.

Applicants' allegation that Nomura's step 5 and applicants' steps 5 and 6, as set forth in the Declaration submitted November 10, 2004, cause the alleged difference in coercive force is not persuasive in that applicants' allegation is not supported by any evidence. "It is well settled that unexpected results must be established by factual evidence. Mere argument or conclusory statements in the specification do not suffice." *In re Deblauwe*, 222 USPQ 191, 196 (Fed. Cir. 1984). Mere lawyer's arguments and conclusory statements in the specification, unsupported by objective evidence, are insufficient to establish unexpected results." *In re Wood, Whittaker, Stirling and Ohta*, 199 USPQ 137, 140 (CCPA 1978).

Applicants' argument regarding the fact that Nomura's process includes a pressing step while applicants process does not is not persuasive in that in view of the applicants' use of the open claim language, "comprising" applicants' claims do not preclude a compressing step.

Applicants' argument that the declaration submitted July 26, 2005 establishes that the method recited in applicants' product by process claims produces an

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unexpected improvement in crystal size and coercive force is not persuasive for the reasons set forth above by the Examiner regarding said declaration.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

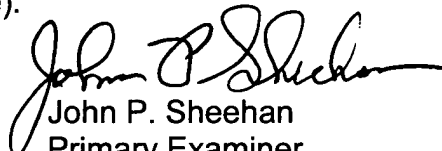
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (6:45-4:30) Second Monday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John P. Sheehan
Primary Examiner
Art Unit 1742

jps